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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/916,534	07/30/2001	Hisashi Yajima	1163-0348P	9045

2292 7590 07/01/2005

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EXAMINER	
AZAD, ABUL K	

ART UNIT	PAPER NUMBER
2654	

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/916,534	YAJIMA ET AL.	
	Examiner	Art Unit	
	ABUL K. AZAD	2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 March 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This action is in response to the communication filed on March 3, 2005.

2. Claims 1-26 are pending in this action. Claims 1, 3-9, 12-20 have been amended. Claims 21-26 have been newly added.

3. The applicant's arguments with respect to claims 1, 4, 6, 9-14, 16 and 18-20 have been fully considered but they are not deemed to be persuasive. For examiner's response to the applicant's arguments or comments, see the detailed discussion in the Response to the Arguments section.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 2, 4, 6, 7, 9-14, 16 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agassy et al. (US 6,424,940) in view of Applicant admitted prior art (Figures 27-30).

As per claim 1, Agassy teaches, "a speech coding apparatus for coding an input signal consisting of one of a speech signal and a voice-band non-speech signal", said speech coding apparatus comprising:

"frequency parameter generating means for outputting, when the input signal is the speech signal, frequency parameters that indicate characteristics of a frequency spectrum of the speech signal, and for outputting, when the input signal is the non-speech signal, frequency parameters obtained by correcting frequency parameters that indicate characteristics of a frequency spectrum of the non-speech signal" (col. 3, lines 1-65, here LP coefficients is frequency parameters and input comprising with a speech and a voice-band non-speech signals);

"a quantization codebook for storing codewords of a predetermined number of frequency parameters" (Fig. 1, element 12); and

"quantization means for selecting codewords corresponding to the frequency parameters output from said frequency parameter generating means by referring to said quantization codebook" (Fig. 1, element 12).

Agassy does not explicitly teach, "discriminating means for deciding as to whether the input signal is a speech signal or a non-speech signal". However, Applicant's admitted prior art Fig. 30 teaches, "discriminating means for deciding as to whether the input signal is a speech signal or a non-speech signal" (Fig. 30, element 602). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a discriminating means so that will reduce error calculation for speech signal for gain compensation.

As per claim 2, Agassy does not explicitly teach, "wherein the frequency parameters are line spectral pairs". However, applicant's admitted prior art teaches to convert LPC to LSP (Specification, Page 2, lines 8-19). Therefore, it would have been

obvious to one of ordinary skill in the art at the time of the invention to convert LPC to LSP because one ordinary skill in the art would readily recognize that would reduce the dynamic range of the parameters and improve coding efficiency.

As per claim 4, Agassy teaches, "wherein said frequency parameter generating means comprises a linear prediction analyzer for computing linear prediction coefficients from the input signal, at least one bandwidth expanding section for carrying out bandwidth expansion of the linear prediction coefficients when the input signal is the non-speech signal" (col. 3, lines 1-65).

Agassy does not explicitly teach, "at least one converter for generating line spectral pairs from the linear prediction coefficients passing through the bandwidth expansion as the frequency parameters". However, applicant's admitted prior art teaches to convert LPC to LSP (Specification, Page 2, lines 8-19). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to convert LPC to LSP because one ordinary skill in the art would readily recognize that would reduce the dynamic range of the parameters and improve coding efficiency.

As per claim 6, Agassy does not explicitly teach, quantization means comprises a first quantization section and a second quantization. However, applicant's adimitted prior art teaches, quantization means comprises a first quantization section and a second quantization (Figure 28, elements 301-303). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a quantization means as claimed because one ordinary skill in the art would readily

recognize that combinations of such quantizatzed samples as miniminizing the power of quantization error signal passing through the weighting.

As per claim 7, Agassy teaches, "a non-speech signal detector for detecting a type of the non-speech signal from the input signal, wherein said frequency parameter generating means comprises a correcting section for correcting, when the input signal is the non-speech signal, the frequency parameters of the input signal according to the type of the non-speech signal detected by the non-speech signal detector" (col. 8, lines 32-45).

As per claims 9-14, 16, 18-20, 23 and 25-26, they are interpreted and thus rejected for the same reasons set forth in the rejection of claims 1, 2, 4, 6 and 7.

6. Claims 5, 17 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agassy et al. (US 6,424,940) as applied to claims 1 and 12 above, and further in view of Lee et al. (US 5,913,189).

As per claims 5 and 17 Agassy does not explicitly teach, white noise superimposing section. However, Lee teaches white noise superimposing section (col. 3, line 54 to col. 4, line 56). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use white noise superimpose section because Lee teaches adding the low-level noise provides sufficient signal bandwidth to stabilize the compression system's transfer function and permit reliable and robust tone signal transmission (col. 4, lines 50-56).

Allowable Subject Matter

7. Claims 3, 8, 15 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. The applicant argues, "the Examiner asserts that it would have been obvious to one of ordinary skill in the art to use the discriminating means the APA "so that will reduce error calculation for speech signal for gain compensation". Applicants respectfully submit that such a statement fails to provide any motivation for combining Agassy with the APA to those of ordinary skill in the art".

The examiner disagrees with above assertion because the applicant acknowledges, that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the knowledge available to one of ordinary skill in the art, which is reducing the error calculation for speech signal.

9. The applicant further argues, "Independent claim 1 recites selecting codewords corresponding to the frequency parameters output for both speech and non-speech signals referring to the same quantization codebook, where the frequency parameters

output for non-speech signals are obtained by correcting certain frequency parameters. This feature is neither taught nor suggested by the Agassy/APA combination".

The examiner disagrees with the applicant's assertion because Agassy teaches at col. 3, lines 1-65. Here at Figure 1, element 12 is a set expanded supper codebook is the quantization codebook from which codewords are selected for the corresponding frequency parameter.

10. The applicant argues that TCQ approach is away from using adaptive linear predicting algorithm and analysis-by-synthesis.

The examiner disagrees because Agassy teaches his invention uses LD-CELP algorithm for speech mode and for non-speech VBD mode his invention replaces analysis-by-synthesis approach to codbook search of ITU-T Rec. G.728 by TCQ approach (see col. 7, lines 8-67).

11. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., obtaining excitation vectors from an adaptive codebook and synthesizing them with quantization codes for the input signal.) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

12. In response to applicant's argument that Agassy and APA is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the

applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, APA used to solve a particular problem, Agassy teaches a signal classifier does not explicitly teach signal classifier classify signals in to speech and non-speech VBD signal, which is teaches by the APA and would have been obvious to one of ordinary skill in the art at the time of the invention.

Conclusion

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ABUL K. AZAD whose telephone number is (571) 272-7599. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, RICHEMOND DORVIL can be reached on (571) 272-7602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ABUL K. AZAD
Primary Examiner
Art Unit 2654

June 20, 2005